Remarks

Claims 1-58 stand rejected under 35 U.S.C.§103(a) as unpatentable over Nofre et al. in view of Kataoka et al. Applicants respectfully traverse the rejection. Applicants contend that one skilled in the art would not be motivated to modify Nofre et al. in view of Kataoka et al. since the method steps disclosed by Kataoka et al. teach away from producing the N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine 1-methyl ester granules of the present invention. Additionally, Kataoka et al. do not teach the use of N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine 1-methyl ester granules having particle size ranges specific for various food and beverage products.

Applicants acknowledge that Kataoka et al. discloses a method for producing aspartame granules from compacted aspartame powder, having a size range 100-1400 μm and other desirable characteristics such as high bulk density and high solubility. However, in order to produce these aspartame granules, use of what Kataoka et al. refer to as a "special screen or perforated plate" is critical to the process. Kataoka et al. teaches that use of the special screen or perforated plate not only improves bulk density (Column 1, Line 11) and solubility (Column 1, Line 46), but also overcomes the problems that arise when granules of aspartame are produced from conventional granulation processes (Column 1, Lines 43-50). The main alleged drawback of the conventional granulation process is formation of fine aspartame powder (Column 2, Lines 3-19). Kataoka et al. incorporates the use of a special screen or perforated plate that has pores in the size range of 1mm – 10mm (Column 2, Lines 63-68), which reduces the amount of fine aspartame powder that is produced during the breaking up of the compacted aspartame (Column 3, Lines 1-2). A second screen or perforated plate is used where the aspartame particles that have passed through the first screen or perforated plate are further passed (Column 4, Lines 40-45). Kataoka makes it clear that failure to use the special screens or perforated plates results in "low process efficiency" (Column 2, Lines 17-19). Kataoka et al. also makes the assertion that in order to produce aspartame particles having the desired characteristics of high bulk density and improved solubility, the process must incorporate use of the special screen or perforated plate, having the aforementioned pore dimensions in both steps of the process. Thus, it is clear that these two sets of screens or perforated plates are essential components of the granulation

process. One of ordinary skill in the art would conclude that the process of producing aspartame granules having the desired characteristics is dependent on the use of the special screens or perforated plates in both steps of the process.

In contrast to Kataoka et al., no special screen or perforated plate is required as part of the process of the present invention. Neotame powder is first compacted, followed by breaking the neotame where it is further milled to obtain granules having particular particle sizes for use in specific sweetener applications. The need to use a special screen or perforated plate, that is, to reduce the amount of neotame powder while the compacted neotame is broken and milled, is not present as part of the process of the present invention. Since the use of the special screens or perforated plates are essential to the process of Kataoka et al. and not essential to the process of the present invention, one of ordinary skill in the art would not be motivated to modify the teachings of Kataoka et al. to exclude the use of a special screen or perforated plates.

Applicants also contend that Kataoka et al. do not disclose particular particle size ranges of granules that can be used to sweeten specific food and beverage products or the functionalities of those ranges. The desired particle size range disclosed by Kataoka et al. is 100-1400 μm. This broad range is not specific for particular sweetening applications such as table-top and powder soft drinks since each sweetening application requires a narrow size range of particles. Kataoka et al. do not suggest size ranges useful for particular food and beverage applications. Applicants wish to point out that the neotame granules of the present invention are particularly suitable for use in tabletop compositions and powdered soft drink mixes, given the improved properties of the granules over the neotame powder. For example, granules ranging from 20 to 100 mesh (890 mm to 150 mm) are particularly suited for use in liquid applications. Granules ranging from 100 to 200 mesh (150 mm to 75 mm) are suited for use in powdered soft drink.

Kataoka et al. also teaches away from the preparation of neotame granules comprised of alternate ingredients, such as other sweeteners or bulking agents, in regards to the amount of alternate ingredient used. Applicants acknowledge that Kataoka et al. discloses the use of alternate ingredients that can be mixed with aspartame, however, Kataoka et al. makes it clear that the amount of alternate ingredient present can be no greater than the amount of aspartame present on a weight basis. For instance, Kataoka et

al. states that "where a vehicle is used along with α-APM for granulation, the amount of the vehicle (wt./wt.) is desired to be not more that the same amount of a-APM since highly sweet α-APM granules cannot be obtained at low cost if the amount of vehicle is too high" (Column 3, Lines 61-65). Contrary to this situation with aspartame, the amount of additional ingredient that can be added to N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine methyl ester can range from 0 to 99.99% (Claim 6, dry binder; Claim 10, sweetener). At the time of the disclosure of Kataoka et al., commercially important sweeteners included acesulfame potassium, saccharin and aspartame, each of which provide about the same sweetness potency by weight. N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine methyl ester, however, is 40-60 times greater in sweetness than aspartame, and therefore is required to have significantly more alternative ingredient present in order to dilute the sweetness potency. One of ordinary skill in the art could not have recognized the significantly higher potency of N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine 1-methyl ester at the time of filing of Kataoka et al. and therefore could not have recognized the need for using a greater quantity of an alternate ingredient.

The disclosure of Kataoka et al. also fails to disclose or suggest the preparation of granules comprised of N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine methyl ester, a carrier and binder. In fact, Kataoka et al. specifically teaches away from such a combination by stating that "the presence of, or any increase in the amount of, binder added results in the necessity of a step of drying the a-APM granules obtained, which is unfavorable from an efficiency and/or industrial viewpoint" (Column 2, Lines 23-28). The present invention discloses that a dry binder may be mixed with the neotame powder prior to compaction, and ultimately, the use of the dry binder improves the strength of the granules and also aids in their dispersion in liquids.

Further, there is no disclosure or suggestion in Kataoka that the Kataoka inventive process will have utility with other sweeteners. In particular, there is no link with a sweetener such as neotame, which has far different physical, chemical and sweetening characteristics than aspartame.

In conclusion, Applicants respectfully submit that the cited art, taken alone or together, does not disclose or suggest the presently claimed invention. Nofre et al. in

view of Kataoka et al. do not provide the necessary guidance or motivation for producing compacted forms of N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine methyl ester from N-[N-(3,3-dimethylbutyl)-L-α-aspartyl]-L-phenylalanine methyl ester powder. Applicants request that the Examiner reconsider the pending claims in view of the unexpected results of the present invention, as reiterated above. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejections set forth in this Office Action, and earnestly solicit allowance of the claims now pending in the subject application.

Respectfully submitted,

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